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Emergency Support Function #3 Public Works and Engineering

Intergovernmental Action Plans Serving the ESF #3 Community: Federal to Local!

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Agenda

- USACE ENGLink Public Access Web Site
- Why the Intergovernmental Effort?
- Plans Under Development
- Commodities
  - Lessons Learned from the 2004 Hurricane Season
  - Quantities of Water, Ice, MREs Needed
  - Distribution Site Planning
- Temporary Power
  - Lessons Learned from the 2004 Hurricane Season
  - Unified Efforts to Improve Based on Lessons Learned
  - Plan Format
  - Required Assessment Database Elements
  - Critical Coordination for the Mission to Occur
- Achieving Unified Success

USACE ENGLink Public Access Site

- The Draft USACE OPLAN to Support the NRP
  - With the Operations Annex and Appendicies
- The Draft Commodities Planning Guide
- The Draft Temporary Emergency Power Intergovernmental Action Plan
- This Briefing
  - With interactive EXCEL spreadsheets for commodities and distribution point planning
  - Note: Does not have the two slides with pictures of EGS – they are too large to send over e-mail
  - Notes view has talking points for each page
- Models for water, ice, debris quantities (based on hurricanes)

- WWW.ENGLINK.USACE.ARMY.MIL

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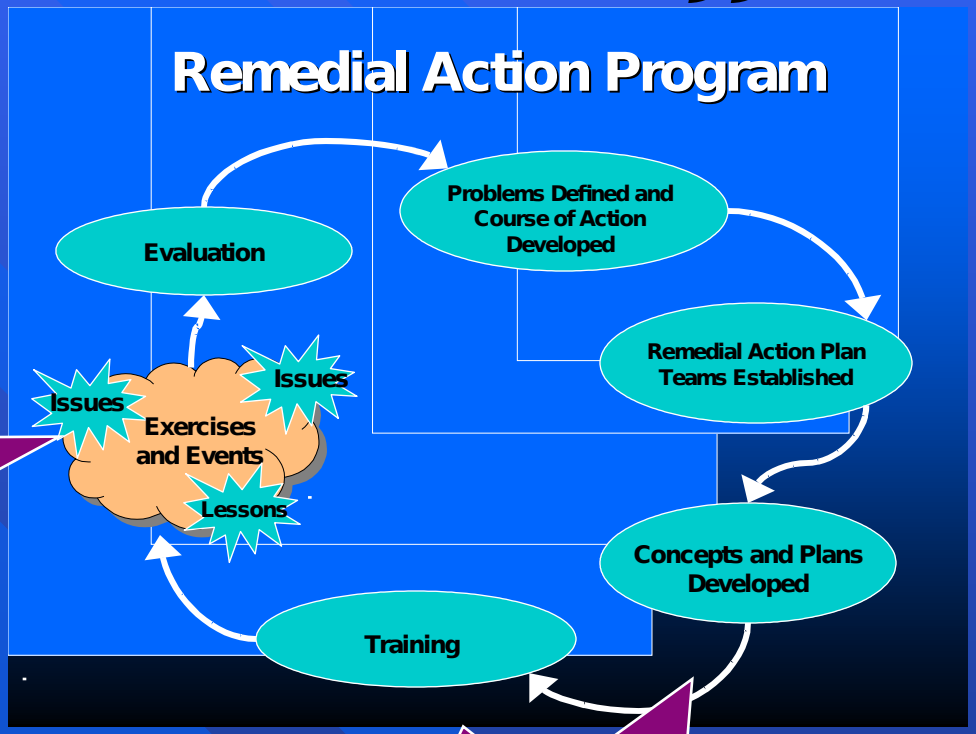
Why The Intergovernmental Effort



- NRP/NIMS Compliance
- USACE = ESF #3 Coordinating Agency

- Single plan/guide for each mission

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Intergovernmental Action Plans

- One per ESF #3 Mission Area
  - Water
  - Ice
  - Debris
  - Temporary Roofing
  - Temporary Housing
  - Temporary Emergency Power
- Intergovernmental Work Groups Developed

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Debris

- Trial – Train the Trainer
  - QA Training
  - Debris Contracts – do's/dont's
- Contaminated Debris Guide

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Mike Stewart
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Temporary Roofing

- Re-establish contracts in US
- Self-Help Plastic Tarps – with commodities
  - (these are not the roles of plastic used by contractors)

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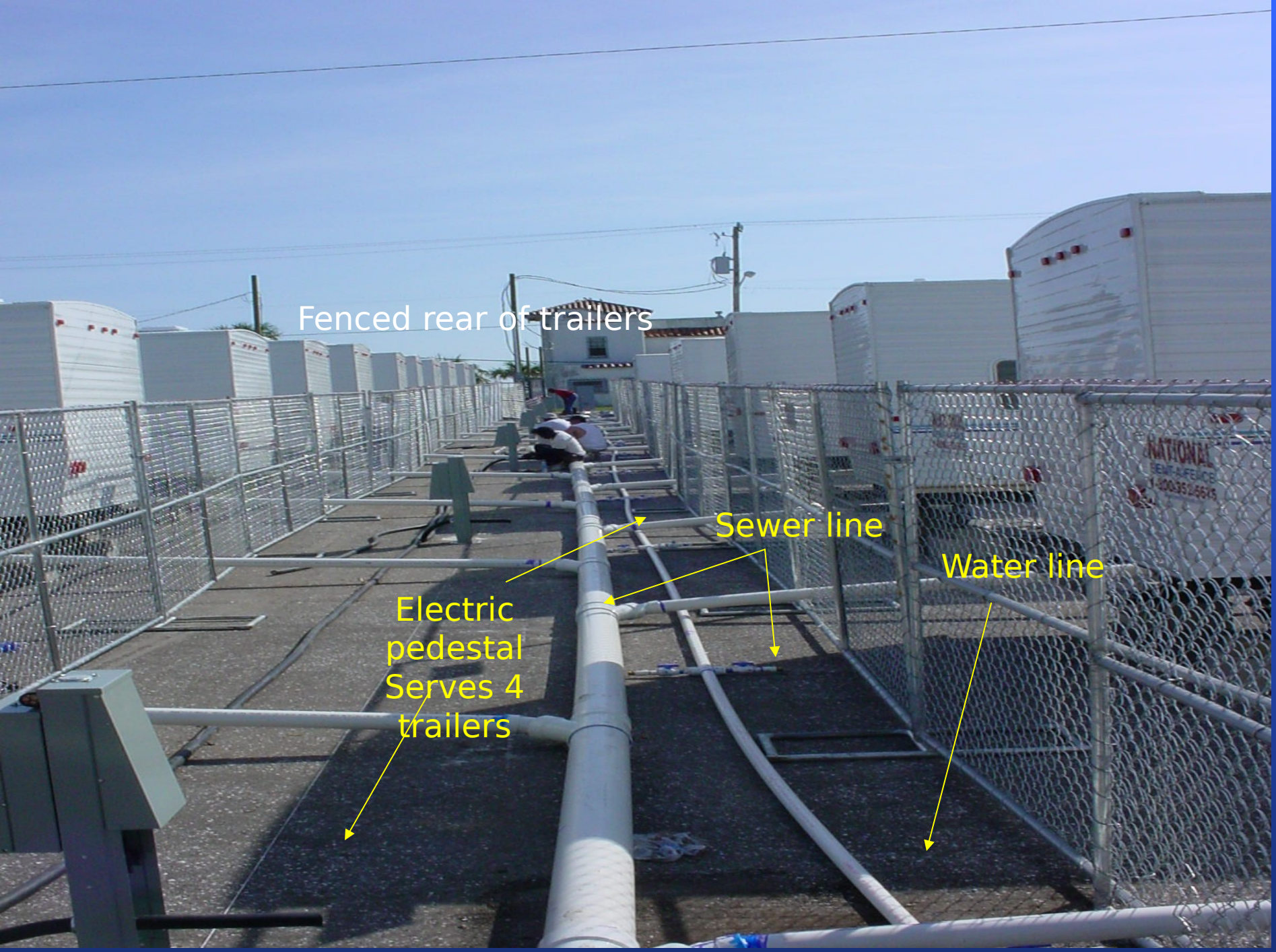
Temporary Housing

- Emergency Group Shelters
  - 75/25 cost share
  - Place where you can put into a sanitary sewer


Fenced rear of trailers
Sewer line
Water line
Electric pedestal Serves 4 trailers

Cavalier

Cavalier

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Commodities Water/Ice/Tarps

- Requirements Planning Guidance
- Distribution Site Planning Guidance
- Asset Visibility - GPS/Bar Scan Tracking
  - Orbitrax
  - Stratix

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Thomas.A.Morse@sam02.usace.army.mil

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Key Lessons Learned

-
- **The critical planning factor for ordering commodities is “distribution” capability, not people without power.**
-
-

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Key Planning Factors

- Ice – 1 truck load (40,000 lbs, 8 lbs/per) serves 5000 people
- Water – 1 truck load (18,000 liters, 3+liters/per) serves 5000 people
- MREs – 1 truck load (21,744 ea., 2 ea/per) serves 10,000 people
- Tarps – 1 truck load (4,400 ea.) serves 4000 families with roof damage
- 1 car represents 1 family or 3 people
- Each car is provided the following:
  - **2 or 3 bags if ice**
  - **1 case of water (9-12 liters)**
  - **6 MREs**
  - **1 tarp, if they state they have roof damage**

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Key Planning Factors, Cont'd

-
-
-

1 Truck Load Ice
1 Truck Load Water
½ Truck Load of MREs
1 Truck Load of Tarps

} Serves 5000 People = One Type III D

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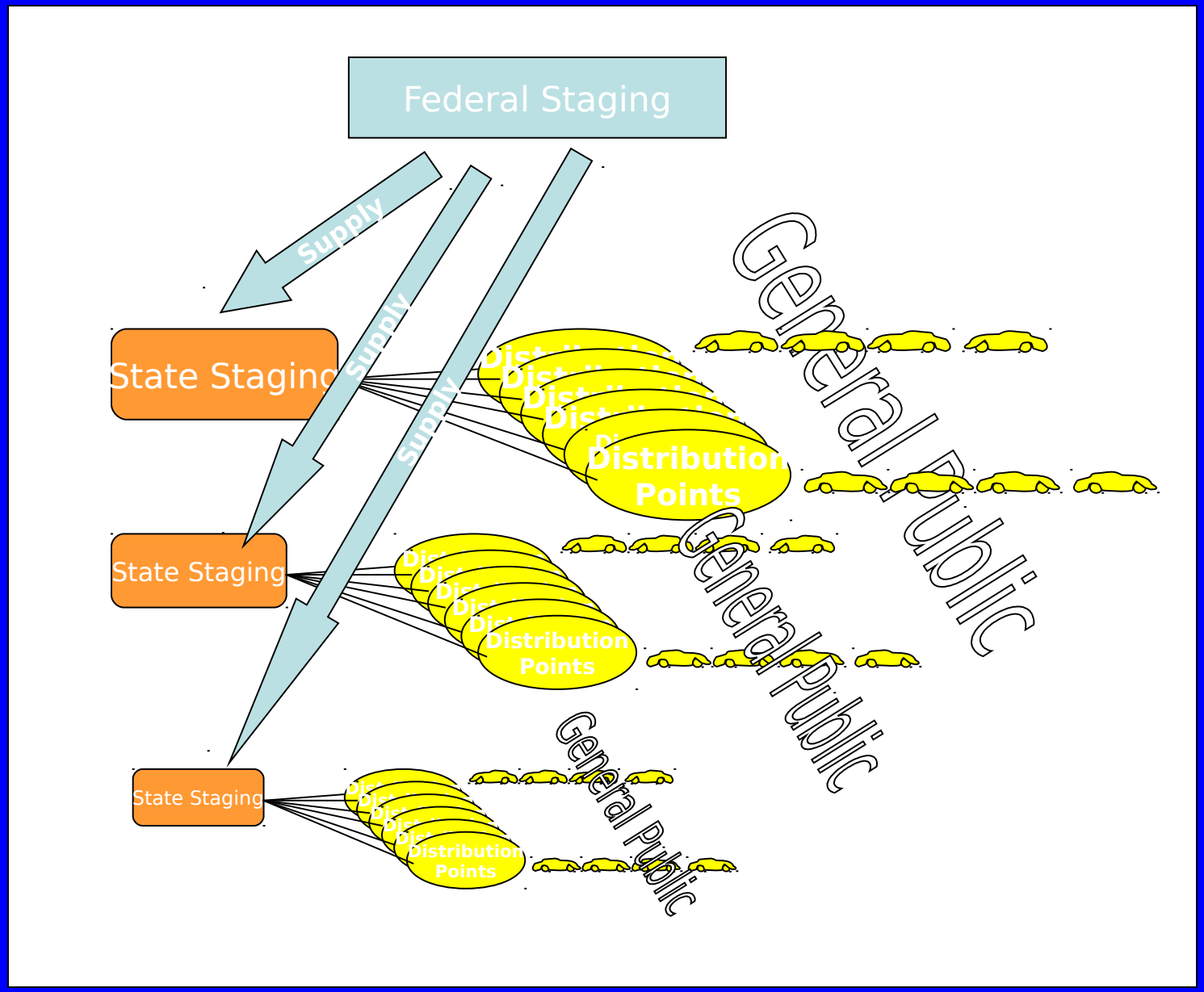

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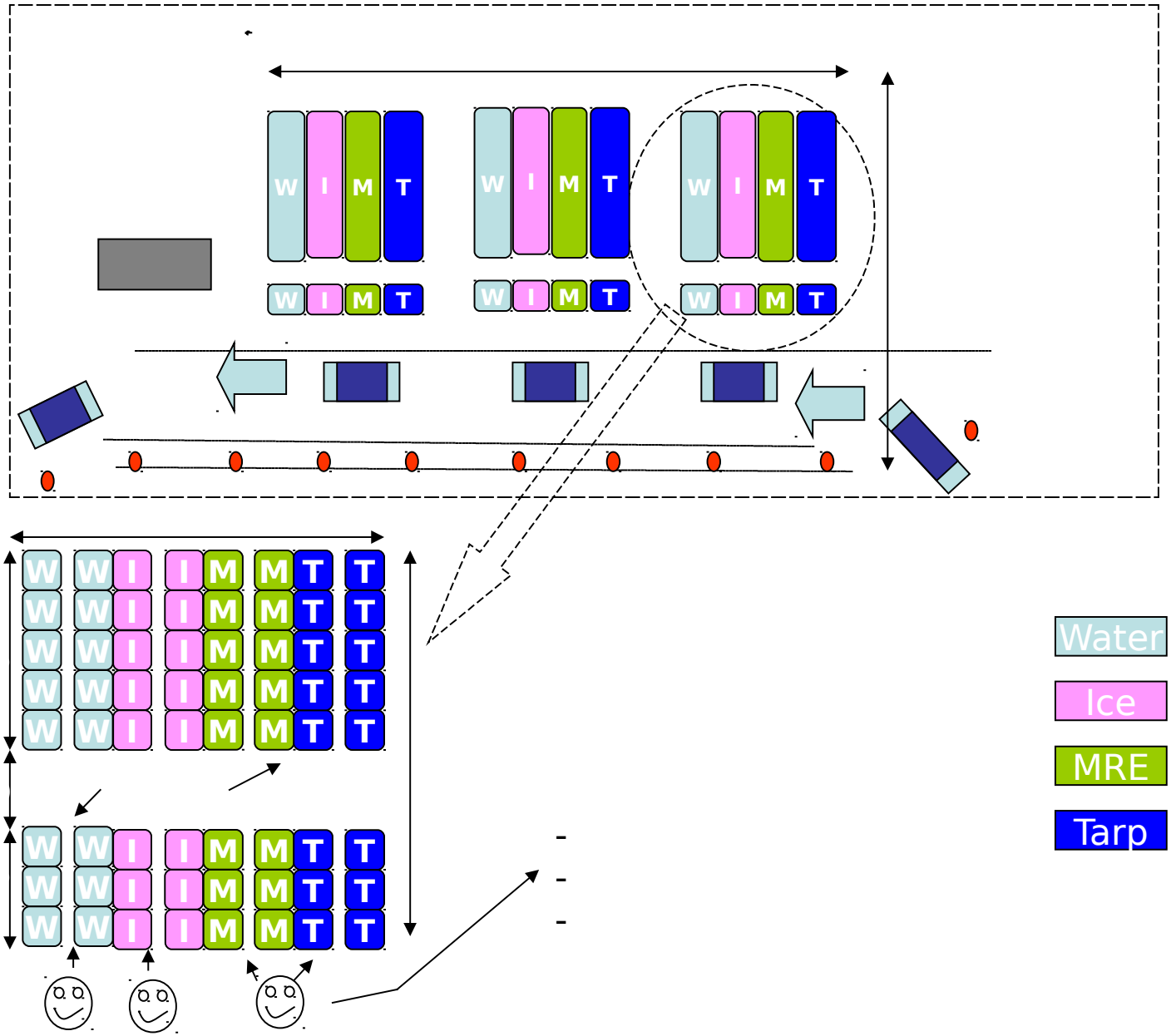

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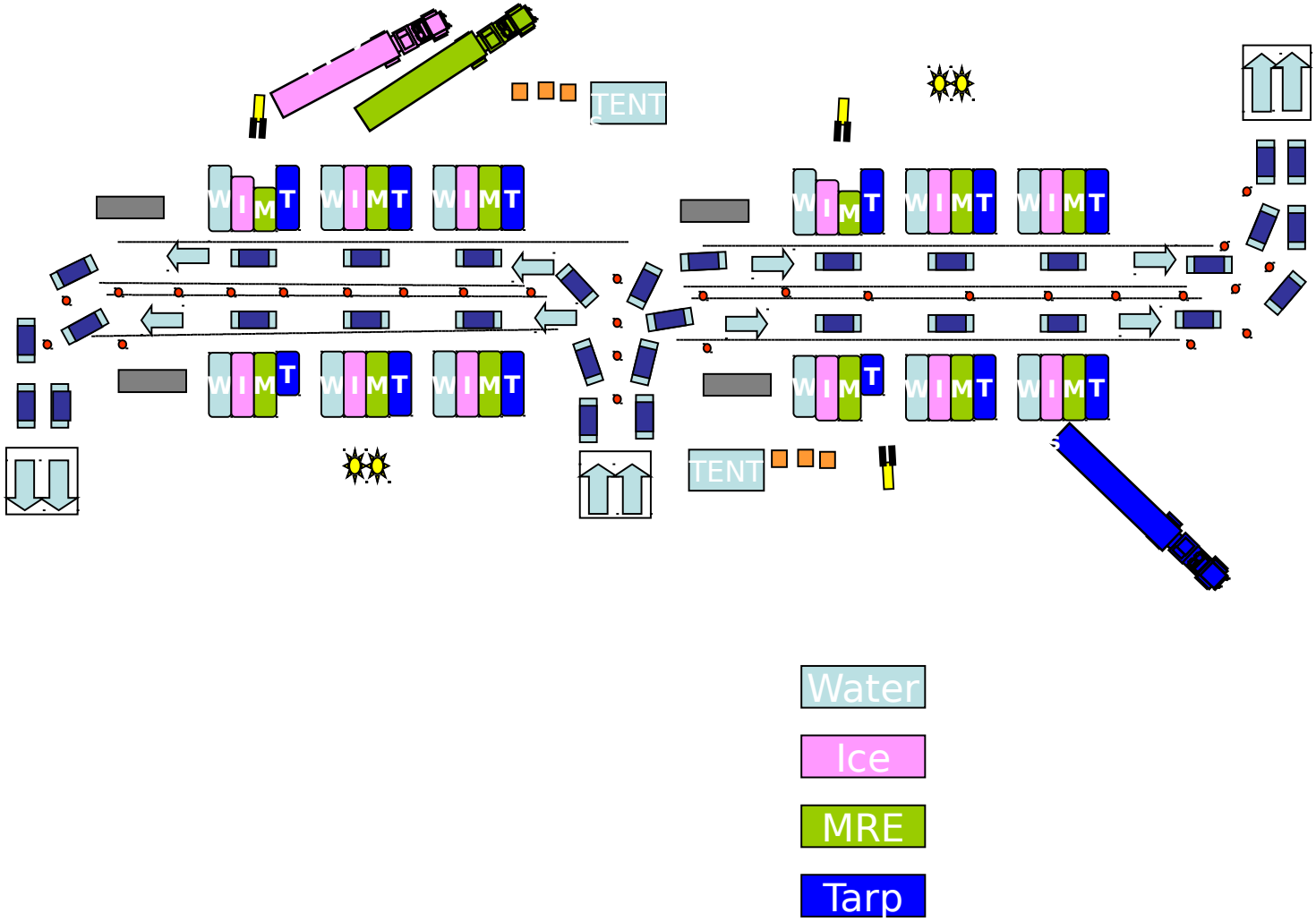

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Type I Distribution Point

Manpower				Equipment	
	Type		Day	Night	Type	Number
Local Responsibility	Manager					
	Team Leader					
	Forklift Operator					
	Labor					
	Loading Point	3				
	Back-up Loading Pt	1				
	Pallet Jacks Labor					
	Totals		70	9		
Others	Law Enforcemen					
	Community Rel.					
Grand Total						

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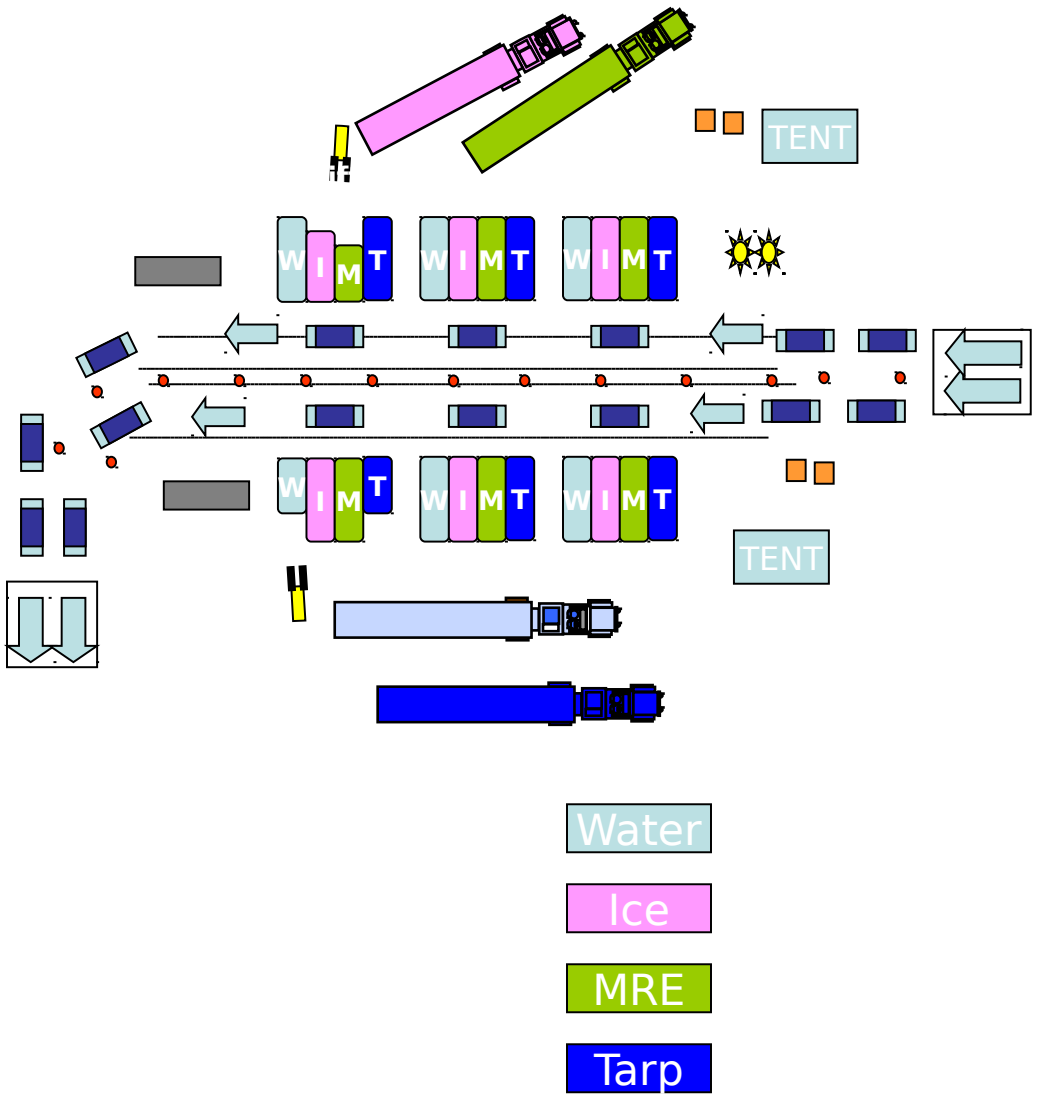

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Type II Distribution Point					
Manpower				Equipment	
	Type	Day	Night	Type	Number
Local Responsibility	Team Leader				
	Forklift Operator				
	Labor				
	Loading PT				
	Back-up Loading PT				
	Pallet Jacks Labor				
	Totals	30	5		
Others	Law Enforcement				
	Community Rel.				
Grand Total					

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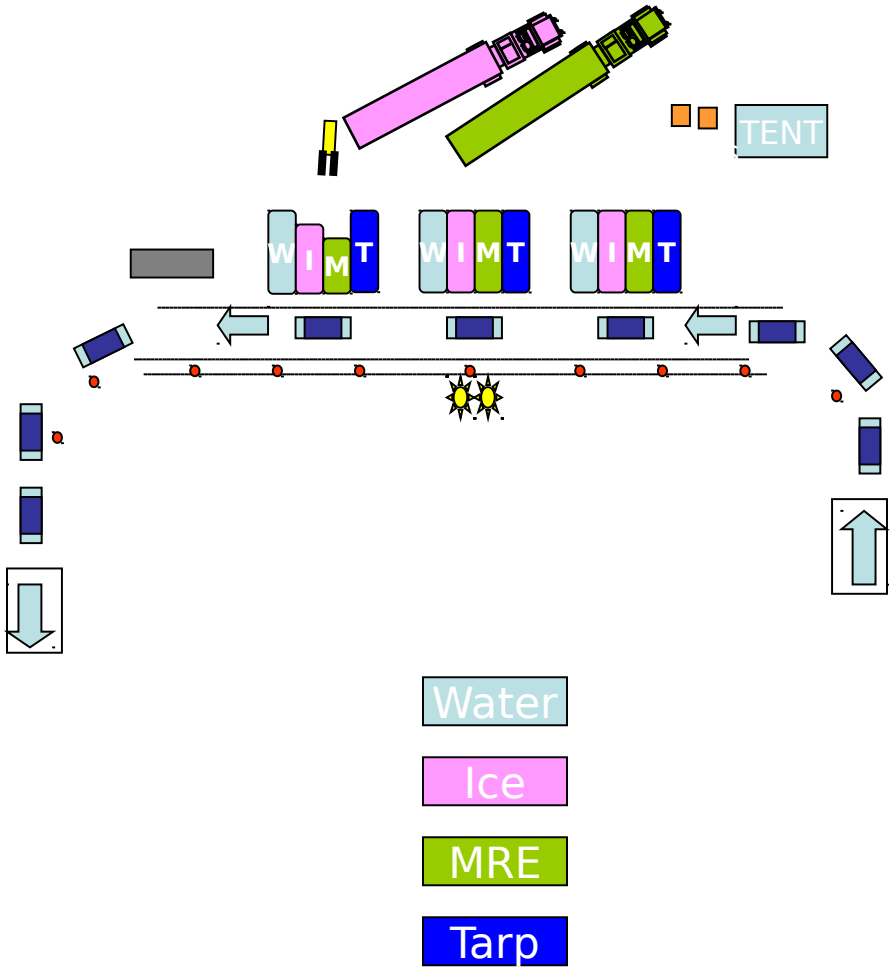

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Type III Distribution Point

Manpower				Equipment	
	Type	Day	Night	Type	Number
Local Responsibility	Team Leader				
	Forklift Operator				
	Labor				
	Loading PT	9			
	Back-up Loading PT	4			
	Pallet Jacks Labor	1			
	Totals	16	3		
Others	Law Enforcement				
	Community Rel.				
Grand Total					

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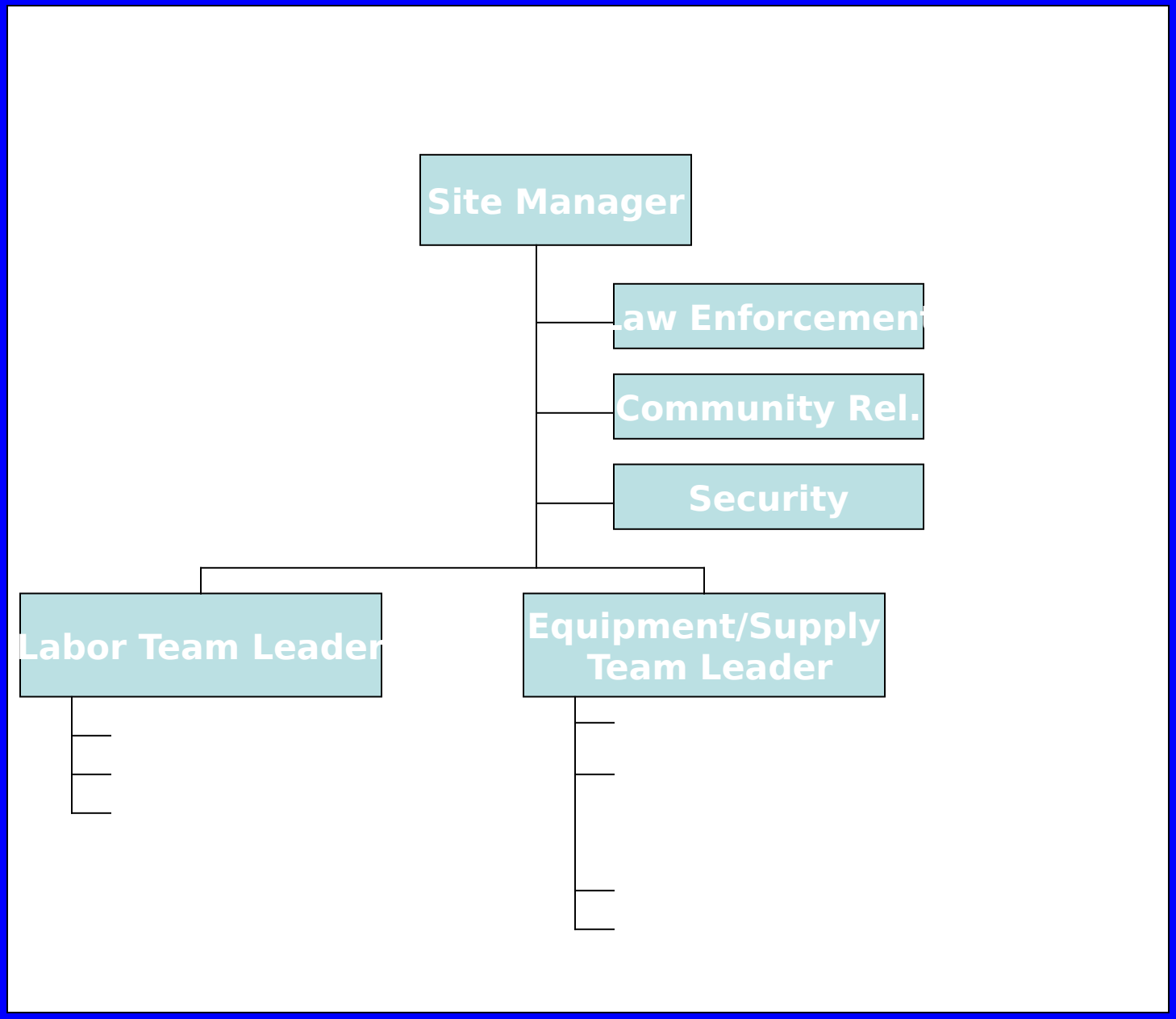

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Enter # of people without power	400,000
(Equals number of customers x 3)	
# of people requiring commodities	160,000
# of Type III Dist. Points Req'd	32

	Type III Dist. Point				
Manpower	**Day**	**Night**		**Equipment**	
Local Req.				Forklifts	32
Forklift Oper	32	32		Pallet Jacks	32
Laborers	480	64		Traff Cones	320
Total	**512**	**96**		Light Sets	32
Law Enf	64	32		Toilets	64
Comun Rel	32	0		Tents	32
Grand Total	**608**	**128**		Dumpsters	32

Tarps	
Loads	Each
36	160,000

Number of truck loads required per day for 24 days		**Water**			**ICE**			**MREs**	
	Days	Loads		K Gal	Loads		K Pounds	Loads	Each
	1	32		152.0	32		1280	16	347,904
	2	29		139.0	29		1170	15	326,160
	3	27		125.9	27		1061	13	288,263
72 Hour Planning Total >		88			88			44	
	4	24		112.9	24		951	12	258,443
	5	21		99.9	21		841	11	228,623
	6	18		86.9	18		731	9.1	198,802
	7	16		73.8	16		622	7.8	168,982
60% Power back on-line >	**8**	13		60.8	13		512	6.4	139,162
	9	12		55.1	12		464	5.8	126,115
	10	10		49.4	10		416	5.2	113,069
	11	9.2		43.7	9.2		368	-	-
	12	8.0		38.0	8.0		320	-	-
	13	6.8		32.3	6.8		272	-	-
	14	5.6		26.6	5.6		224	-	-
	15	4.4		20.9	4.4		176	-	-
90% Power back on-line >	**16**	3.2		15.2	3.2		128	-	-
	17	2.8		13.3	2.8		112	-	-
	18	2.4		11.4	2.4		96	-	-
	19	2.0		9.5	2.0		80	-	-
	20	1.6		7.6	1.6		64	-	-
	21	1.2		5.7	1.2		48	-	-
	22	0.8		3.8	0.8		32	-	-
	23	0.4		1.9	0.4		16	-	-
	24	0.0		0.0	0.0		0	-	-
Total Loads		**249.6**		**1185.6**	**249.6**		**9984**	**101**	**2,195,523**

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Enter Number of Type III Dist. Points to be used	25								
- 1 Type II = 2 Type III									
- 1 Type I = 4 Type III									

Number of truck loads required		Water		ICE		MREs		Tarps	
per day for 24 days	Days	Loads	K Gal	Loads	K #	Loads	Each	Loads	Each
	1	25	118.8	25	1000	13	271,800		
	2	23	108.6	23	914	11	248,503		
	3	21	98.4	21	829	10	225,206		
Initial Order (72 Hour Planning Total) >		**69**		**69**		**34**		**28**	**125,000**
	4	19	88.2	19	743	9	201,909		
	5	16	78.0	16	657	8	178,611		
	6	14	67.9	14	571	7.1	155,314		
Next Order (next 72 Hour Planning Total) >		**49**		**49**		**25**			
	7	12	57.7	12	486	6.1	132,017		
60% Power back on-line >	**8**	10	47.5	10	400	5.0	108,720		
	9	9	43.0	9	363	4.5	98,528		
	10	8	38.6	8	325	4.1	88,335		
	11	7.2	34.1	7.2	288	-	-		
	12	6.3	29.7	6.3	250	-	-		
	13	5.3	25.2	5.3	213	-	-		
	14	4.4	20.8	4.4	175	-	-		
	15	3.4	16.3	3.4	138	-	-		
90% Power back on-line >	**16**	2.5	11.9	2.5	100	-	-		
	17	2.2	10.4	2.2	88	-	-		
	18	1.9	8.9	1.9	75	-	-		
	19	1.6	7.4	1.6	63	-	-		
	20	1.3	5.9	1.3	50	-	-		
	21	0.9	4.5	0.9	38	-	-		
	22	0.6	3.0	0.6	25	-	-		
	23	0.3	1.5	0.3	13	-	-		
	24	0.0	0.0	0.0	0	-	-		

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Temp Power Lessons Learned

- Lack of county, state and federal coordinated pre-planning resulted in not meeting expectations
  - Expectations to install a generator range from 6 hours to 24 hours after a request is submitted
- Expectations can only be met if all elements involved with the power mission are on site and prepared to install generators immediately after the storm passes
- Annually submitted databases of power assessments for critical facilities must be developed and maintained

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Temporary Emergency Power Efforts to Improve Based On Lessons Learned

- Basically moving the timeline back to be able to install earlier and using county pre-assessments and post event facility confirmations to preclude from always having to perform assessments with the 249th
- Pre-event:
  - **1 – counties/states are encouraged to permanently install and maintain generators at their self-assessed critical facilities**
  - **2 – counties/states are encouraged to determine facility power needs well before an event and submit that information using the USACE provided data elements to USACE for posting in ENGLink and to be used by the USACE Power PRT during an event. (precludes 249th PP from having to perform a facility assessment before install if the facility is confirmed as not damaged or having entrance blocked) (assessment must be performed by a licensed electrician or an electrical engineer)**

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Temporary Emergency Power Efforts to Improve Based On Lessons Learned

- **Pre-event (con't)**
  - **3 – encourages states and RRCC to designate generator staging area by H-72 hours to allow all to arrive there by h-48 (including deploying gen sets by H-48 hours) (need 5 acres for one FEMA 50 pack)**
  - **4 – promotes/encourages the RRCCs to put $300K against the pre-dec mob for the Temp Power Mission – this buys you the full power PRT, the ACI contractor mobed and preparing gen sets, the 249th teams all ready to install generators immediately after the event.**
- Post event
  - 5 - **counties/states are encouraged to submit prioritized requests that include a confirmation from the facility manager that the facility is not damaged and access is not blocked**
  - **6 – Please do not double request – ask for status on original request**

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Plan Format

- Executive Summary
- Operations Plan
  - 1. Situation
  - 2. Mission
  - 3. Execution
    - » A. Commander's Intent
    - » B. Concept of the Operation
    - » C. Tasks
      - (1) Preparedness
      - (2) Execution (three Phases)
      - (3) Mission Closeout
    - » D. Coordinating Instructions
  - 4. Administration and Supply
  - 5. Command and Signal

- Tabs – (documents that provide additional information)

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Required Database Elements

Assessment Report/Database Elements		
0	Mission #:	
1	Facility Name and building use:	Remarks (Please no maps):
2	Address:	
3	City, St:	
4	County:	
5	Name:	
6	Phone:	
7	Cell:	
8	FAX:	
9	Dates of assessment requested and completed:	
10	Team member names:	
11	KW:	
12	Phase:	
13	Voltage:	
14	Configuration: Y or Δ	

EXCEL or ACCESS – importable to Oracle
Email to John.C.Sharp@sam.usace.army.mil

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Required Database Elements

15	North Degrees	
16	Minutes	
17	Seconds	
18	West Degrees	
19	Minutes	
20	Seconds	
21	Load Cable Size MCM #awg ott	
22	Qty/UI	
23	Ground Cable Size MCM #awg ott	
24	Qty/UI	
25	Ground Rod Y or N	
26	Qty/UI	
27	Item	
28	Qty/UI	
29	Item	
30	Qty/UI	

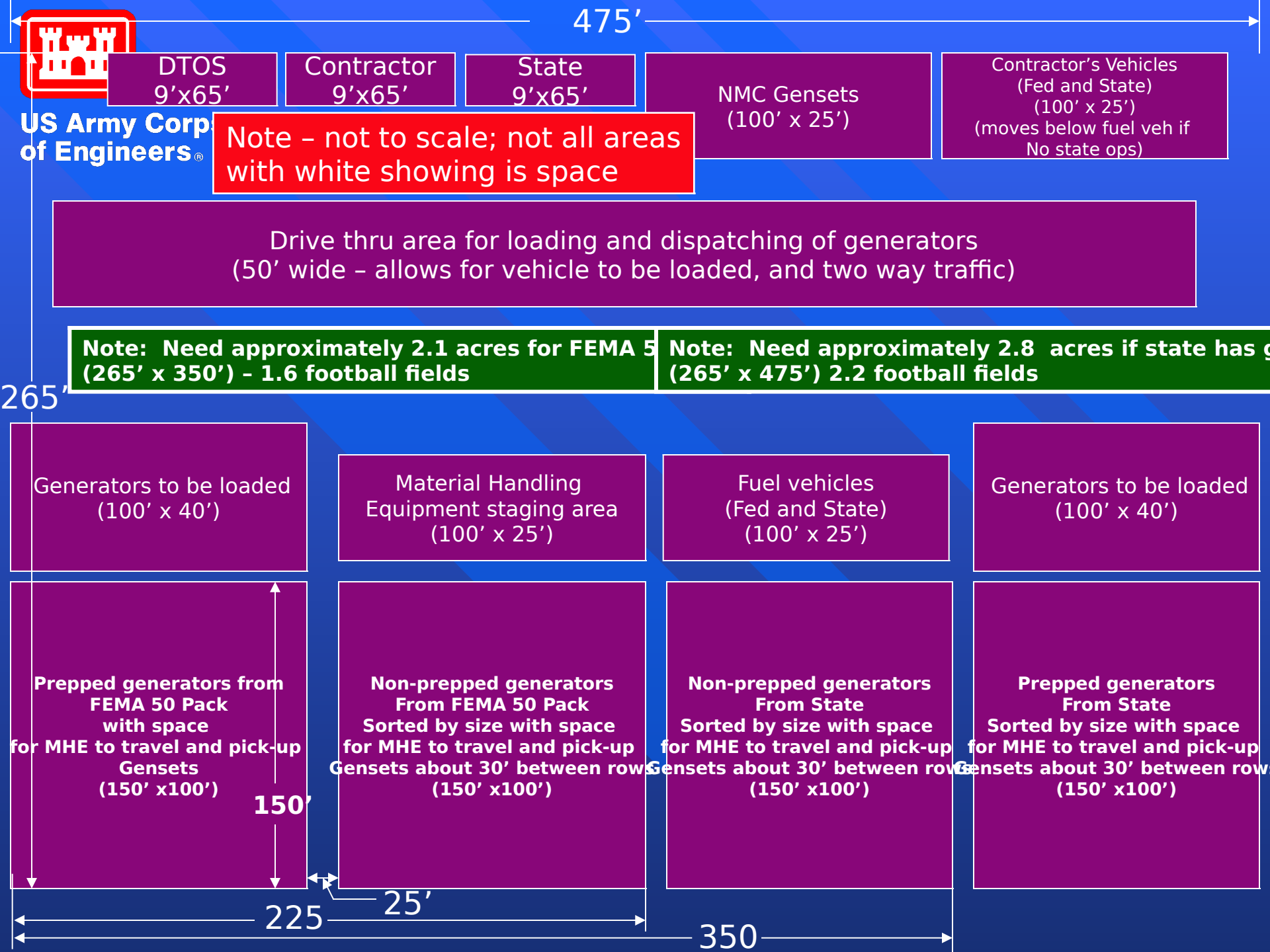
EXCEL or ACCESS – importable to Oracle
Email to John.C.Sharp@sam.usace.army.mil

Staging Area Planning Factors

- 1 acre = 43,560 sf
- A football field with end zones (360’ x 160’) is approximately 1.3 acres.
- FEMA 50 Pack takes roughly 12 tractor trailers depending on configuration
- Tractor with trailer is roughly 9’ x 65’ = 585 sf
- Space for the tractor trailers = 12 X 585 sf = 7020 sf for space to move, let’s double = 15,000 sf to park FEMA’s tractor trailers (150’ x 100’).
- Assume 25 prepared and 25 not prepared at any one time so split between 2 sites (150’ x 100’ each). Large gensets remain on trailer.
- Gensets (prepared and unprepared, downloaded and on trailers) – 10 per row, 3 rows with 30’ between rows to allow for MHE to move = approx 150’ x 100’ (0.36 acre) for each. One row of uploaded (large) gensets in each site.
- As additional gensets are brought-in they will rotate through the space provided.
- As de-installs occur – additional space may be required. Space will depend on number of gensets out and if work to return to FMC and storage will occur from the staging area.
- Need good access and egress.
- Need good work and traffic flow internal to site.

• A paved area, roughly 2 to 3.0 football fields in area, with good acce
and egress is a good rule of thumb for a Temp Power staging area.

• CAUTION: Pavement must be designed for tractor trailer loads o
wheels will push through the pavement.


475’
DTOS
9’x65’
Contractor
9’x65’
State
9’x65’
NMC Gensets
(100’ x 25’)
Contractor’s Vehicles
(Fed and State)
(100’ x 25’)
(moves below fuel veh if
No state ops)
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Note – not to scale; not all areas
with white showing is space
Drive thru area for loading and dispatching of generators
(50’ wide – allows for vehicle to be loaded, and two way traffic)
Note: Need approximately 2.1 acres for FEMA 5
(265’ x 350’) – 1.6 football fields
Note: Need approximately 2.8 acres if state has g
(265’ x 475’) 2.2 football fields
265’
Generators to be loaded
(100’ x 40’)
Material Handling
Equipment staging area
(100’ x 25’)
Fuel vehicles
(Fed and State)
(100’ x 25’)
Generators to be loaded
(100’ x 40’)
Prepped generators from
FEMA 50 Pack
with space
for MHE to travel and pick-up
Gensets
(150’ x100’)
150’
Non-prepped generators
From FEMA 50 Pack
Sorted by size with space
for MHE to travel and pick-up
Gensets about 30’ between rows
(150’ x100’)
Non-prepped generators
From State
Sorted by size with space
for MHE to travel and pick-up
Gensets about 30’ between rows
(150’ x100’)
Prepped generators
From State
Sorted by size with space
for MHE to travel and pick-up
Gensets about 30’ between rows
(150’ x100’)
25’
225
350

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Critical Coordination for Generator Installation To Occur

- Pre-installation
  - Receive valid, prioritized request from county through state and FEMA
    - » BONUS: request confirms facility can receive power and access is not blocked
    - » BONUS: pre-storm valid assessment was conducted and available
  - If no valid assessment or confirmation of facilities ability to receive power – send out 249th
    - » 249th contacts county for facility manager to obtain access
  - Valid prioritized request and assessment given to contractor
  - Contractor contacts facility manager for access and contacts power company to ensure power in line is disconnected
  - Contractor confirms power is off and that they are allowed to perform any transformer connects/disconnects or coordinate for the power company to perform.
  - Contractor contacts and physically meets with facility manager at facility
    - » NOTE: Sometimes this happens after normal hours and if the facility manager doesn't show – we can't install
- Install occurs

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Critical Coordination for Generator Maintenance and De-installation To Occur

- Post Installation
  - 249th performs a Quality Assurance inspection of the installation
  - Contractor initiates daily maintenance and fueling
  - USACE QA inspectors perform QA of maintenance.
  - Power company notifies county/state of date for power to be restored to a line
- De-installation requested
  - County through state to USACE Power Action Officer requests de-install.
  - USACE AO notifies Power PRT and Contractor to perform de-install
  - Contractor contacts power company to ensure power in line is off.
  - Contractor contacts facility manager to meet at facility for access to disconnect and remove generator
    - » NOTE: Sometimes this happens after normal hours and if the facility manager doesn't show – we can't install
- De-Installation occurs

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Easy Steps to Unified Success

- Commodities Planning and Distribution:
  - Counties/States: Use the guidance to plan distribution sites – before the event

- Temporary Power:
  - DHS/EP&R/FEMA
    - » **STEP 1: Increase Temp Power PSMA to $300,000**
  - RRCC
    - » **STEP 2: Issue the Pre-Dec Deployment for all to Arrive at H-48**
  - State
    - » **STEP 3: Where possible install backup power generation and maintain**
    - » **STEP 4: Read the recommended plan and develop the database IAW Tab D (convertible to Access/Oracle)**
    - » **STEP 5: Provide your state's critical facility database to:**

    US Army Engineer District Mobile
    Attn: John.C.Sharp, HQ-RSC, Annex
    201 St. Michael Street
    Mobile, Alabama 36602
    Or e-mail the data file to John.C.Sharp**@sam.usace.army.mil**

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Easy Steps to Unified Success

- **Temporary Power**
  - **States (con't)**
    - **STEP 6: Pre-select staging areas for generator operations**
      - **Two to three Acres of space with good entrance and egress for a FEMA 50 pack**
    - **STEP 7: Facility manager confirm post strike integrity and submit with request**
    - **STEP 8: County/state - Prioritize requests through FEMA to the Federal Power PRT**
      - **Please do not double request – ask for a status of original request**
    - **STEP 9: Facility manager meets installation crew to ensure facility access – this will often occur after normal duty hours**

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Questions/Guidance?